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artificial heat if the weather is favourable, the warp is given to the weaver to be rewoven into the ultimate figured cloth required.

In winding the warp again on the weaver's beam, the ordinary means of spreading it, by passing it through a coarse reed or wraith, are inapplicable, on account of the strips of cloth which have been woven across it; the process, however, is readily effected by stretching these strips to their full extent by hand, and thus guiding it on to the beam or roll. The weaver pursues the ordinary method of manufacturing the piece of goods, drawing out as he proceeds in weaving the weft which has been woven in, to form the small strips of cloth before mentioned. No subsequent finish or dressing is required, and the work is ready for sale when it leaves the loom.

ELKINGTON'S PROCESS OF ELECTRO-PLATING AND GILDING.

By MR. PELLATT.

It is immaterial what metal is used for articles to be plated by this process; a compound metal composed principally of nickel, however, is preferred, which, when plated with silver, can scarcely be distinguished from the solid metal.

The first thing before plating or gilding is thoroughly to cleanse the articles from all grease or oxide, and this is done by boiling them in caustic alkali, and scouring them with sand and dilute acid; they are then washed and dried, and a copper wire being attached to them, they are placed in a metallic solution of the metal required to be deposited, the wire being connected with the negative pole, while a silver plate suspended in the same solution is connected with the positive pole of the battery.

The process of gilding is similar to that of silvering, except that the gold solution requires to be heated while the process is proceeding.

Great care is required in the arrangement of the batteries, the object being to decompose the solution easily, and at the same time to produce a firm, smooth, and regular deposit of the metal. The secret of the manipulation consists in the correct balance of power between the battery, on the one hand, and the strength of the solutions, and the number of articles to be deposited on, on the other.

The solution for gilding is prepared by dissolving the gold in a mixture of pure nitric and muriatic acids, the product being a chloride of gold; after evaporation, this is converted, by means of an alkali, into the oxide, which oxide is dissolved in pure cyanide of potassium.

The solution of silver is prepared by dissolving pure silver in nitric acid diluted with distilled water, and similarly treated with the cyanide of potassium, as in the gold solution.

In forming articles of solid silver, the following process is employed:—

Upon a wax model is first deposited a copper surface by the electro-process; the wax is then melted out, and thus a perfect mould of copper is obtained, into which is deposited silver of any substance that may be required. The copper is then removed by dissolving it with acid, and the article required is obtained.

If the original model is in metal, an elastic mould made of glue and treacle is used, by pouring the composition in a liquid state upon the model.

By a late improvement the proprietors have the means of giving a metallic conducting medium to this composition, and to other substances, without the use of any external application, as black lead, &c.

MR. JOHN THOMAS DAVIS'S PATENT
STEREOPRISMATIC COMBINATION APPLICABLE TO
WOOD-PAVEMENTS AND OTHER PURPOSES.

THIS combination has already been practically applied in paving part of the carriage-way of Lombard Street towards the west end.

The mode of forming the paving-blocks is by cutting a piece of timber 6 inches wide and $5\frac{1}{2}$ inches thick into lengths of 9 inches; the angle at which the blocks are cut being 36° . In each side, and in the sloped ends, rectangular grooves are cut $\frac{3}{4}$ of an inch in depth, and of a similar width; the bottoms of the grooves being 2 inches from the lower face of the block. Into these grooves are inserted wooden keys $3\frac{3}{4}$ inches in length, $\frac{3}{4}$ inch thick, and $1\frac{1}{2}$ inches in width, the use of which is to tie the blocks together both longitudinally and laterally. A triangular groove, $\frac{3}{4}$ inch wide and $\frac{5}{16}$ inch deep, is cut in the upper surface of each block in the direction of its length, to give a footing to the horses, and each row of blocks is put together so as to break joint throughout the work.